COMARK

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December 23, 1997

RCA

Ms. Magalie Roman-Salas
Secretary
Federal Communications Commission
1919 M Street, N.W.
Room 222
Washington, DC 20554

Re: Ex Parte Presentation
In the Matter of Advanced Television Systems and
Their Impact Upon the Existing Television
Broadcast Service;
MM Docket No. 87-268

Dear Ms. Roman-Salas:

Comark Communications, Inc. has filed the attached letter to Chairman Kennard addressing the issues of DTV to NTSC and DTV to DTV interference and the spectral characteristics of transmitters in these instances.

In accordance with the Commission's Rules, two copies of this letter are being filed with the Secretary for inclusion in the public record of this proceeding.

Sincerely,

R.C. Kiesel

Raymond C. Kiesel
Vice President, Technology Development
Comark Communications, Inc.

Enclosures

cc: Chairman William Kennard
Commissioner Michael Powell
Commissioner Harold Furchtgott-Roth
Commissioner Susan Ness
Commissioner Gloria Tristani
Mr. Robert Bromery, Office of Engineering and Technology
Mr. Bruce Francia, Office of Engineering and Technology
Mr. Robert Eckert, Office of Engineering and Technology
Mr. Alan Stillwell, Office of Engineering and Technology
Mr. Keith Larson, Mass Media Bureau
Mr. Roy Stewart, Mass Media Bureau
Mr. John Morgan, Mass Media Bureau

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December 23, 1997

Chairman William Kennard
Federal Communications Commission
1919 M Street, N.W.
Room 814
Washington, DC 20554

Re: In the Matter of Advanced Television Systems and Their Impact Upon the Existing Television Broadcast Service;
MM Docket No. 87-268

Dear Chairman Kennard:

We are filing this letter for Comark Communications, Inc.

Recent comments from several broadcasters and broadcast groups express concern for issues regarding the FCC's table of allocations for digital television service. Many of the concerns relate to adjacent channel assignments. Comark has several comments about these issues from the standpoint of a transmitter manufacturer and would like to urge the FCC to take these comments under advisement.

The Issue of a Fixed Mask

While a fixed mask generally tends to make measurement easy (because it can be done simply by looking at the spectral output of a transmitter using a spectrum analyzer), there is no real scientific reason to have a fixed mask. Power which is radiated in adjacent channels is of concern because of its potential interference into adjacent channel signals. Therefore we recommend that the FCC take an approach to the problem using data which has been collected over the past years. Each case of potential for interference needs to be considered separately. There are three scenarios that need to be addressed:

A) No adjacent assignments
B) Adjacent NTSC
C) Adjacent DTV

No Adjacent Assignments

For the condition where there are no adjacent channel assignments, we recommend that the FCC mask as proposed in the sixth report and order be maintained as a rule. As stated above, measurement against this mask is relatively straightforward and should keep out-of-band emissions to a reasonable and achievable level.

Adjacent DTV to NTSC

In the case of adjacent NTSC channels we recommend that the weighting function as proposed in the ATSC's draft document T3/272, section 4.1.1.1 be used as a specification. This document outlines the reasons behind using a weighted mask for DTV to NTSC interference and provides the numbers as measured by the ATTC to prevent interference. The only part of this section that we recommend not be used is the paragraph that reads:

"i.e., the maximum ratio of received DTV power compared to an adjacent NTSC channel power at any location within the DTV coverage area where the NTSC channel 's coverage must be protected. This measured ratio includes any effects of different DTV and NTSC antenna patterns."

The purity of the transmitter output signal (out-of-band) will not guarantee this performance, since it is extremely difficult to determine the point in the coverage areas where the D/U ratio is the smallest.

Adjacent DTV to DTV

For the case of adjacent DTV channels, the use of a mask across the 6MHz channel is not relevant to interference since the DTV "spill-over" interferes like random noise. All frequencies in the DTV channel are equally susceptible to interference. In this case, we recommend that the mask not be used and instead, the total power integrated over the 6MHz adjacent channel be used for regulation. This appears to us to be a more reasonable approach to the problem and will allow transmitters to use different techniques to keep the interference at a minimum.

Conclusion

The numbers which have been determined for TOV (threshold of visibility interference) for both DTV-to-NTSC and DTV-to-DTV interference are achievable with today's technology with some impact on initial cost and cost of ownership of transmitter equipment. A requirement for better out-of-band performance, however, will likely increase the cost of capital and/or cost of ownership.

Comark (and other transmitter manufacturers) are presently investigating ways to improve transmitter out-of-band performance without significant cost increases. Although we now believe that some improvement will be possible without significant cost impact, we cannot quantify the impact at this time. More data is expected within the next three months.

Sincerely,

R. C. Kiesel

Raymond C. Kiesel
Vice President, Technology Development
Comark Communications, Inc.

cc: Commissioner Michael Powell
Commissioner Harold Furchtgott-Roth
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Ms. Magalie Roman-Salas, Secretary